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| 09/574,735 | 05/18/2000 | Lieven DeVeylder | 2283/301 | 1507 |

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| EXAMINER | |
|---|---|
| COLLINS, CYNTHIA E | |
| ART UNIT | PAPER NUMBER |
| 1638 | 20 |

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Please find below and/or attached an Office communication concerning this application or proceeding.

| Offic Action Summary | Application No. 09/574,735 | Applicant(s) DEVEYLDER ET AL. | |
|---|---|---|---|
| | Examiner Cynthia Collins | Art Unit 1638 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Peri d for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *18 May 2000 and 29 August 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-59* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-59* are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

1. Applicants are reminded that nucleotide sequences encoding different proteins are structurally distinct chemical compounds and are unrelated to one another. These sequences are thus deemed to normally constitute **independent and distinct** inventions within the meaning of 35 U.S.C. 121. Absent evidence to the contrary, each such nucleotide sequence is presumed to represent an independent and distinct invention, subject to a restriction requirement pursuant to 35 U.S.C. 121 and 37 CFR 1.141 et seq. This requirement is not to be construed as a requirement for an election of species, since each nucleotide and amino acid sequence is not a member of a single genus of invention, but constitutes an independent and patentably distinct invention.

### *Claim Objections*

2. Claim 53 is objected to because there is insufficient antecedent basis for a "nucleic acid molecule" comprising "the nucleotide sequence as set forth in any one of SEQ ID NO: 1, 3, or 5" in claims 34 and 35. There is no indication that the method of claim 4 involves the use of any nucleotide sequence. The method of claim 35 is drawn to expressing antibodies against CKI, but SEQ ID NO: 1, 3, or 5 do not encode antibodies. Consequently, claim 53 is excluded from the Groups of invention that include claims 34 and 35.

### *Election/Restrictions*

3. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1, 3, 4, 6, 12, 26, 28, 29, 34, 52 and 54, drawn to methods in a plant, comprising introducing into a plant cell a cyclin-dependent kinase inhibitor (CKI) of SEQ ID NO:2, classified in class 435, subclass 410, for example.

II. Claims 1, 3, 4, 6, 12, 26, 28, 29, 34, 52 and 54, drawn to methods comprising introducing into a plant cell a cyclin-dependent kinase inhibitor (CKI) of SEQ ID NO:4, classified in class 435, subclass 410, for example.

III. Claims 1, 3, 4, 6, 12, 26, 28, 29, 34, 52 and 54, drawn to methods comprising introducing into a plant cell a cyclin-dependent kinase inhibitor (CKI) of SEQ ID NO:6, classified in class 435, subclass 410, for example.

IV. Claims 2, 5, 7-25, 27-31 and 36-57, drawn to a methods comprising introducing into a plant cell a nucleic acid molecule of SEQ ID NO:1 encoding a cyclin-dependent kinase inhibitor (CKI) of SEQ ID NO:2, and to transgenic plants comprising said nucleotide sequence, classified in class 800, subclass 290, for example.

V. Claims 2, 5, 7-25, 27-31 and 36-57, drawn to a methods comprising introducing into a plant cell a nucleic acid molecule of SEQ ID NO:3 encoding a cyclin-dependent kinase inhibitor (CKI) of SEQ ID NO:4, and to transgenic plants comprising said nucleotide sequence, classified in class 800, subclass 287, for example.

VI. Claims 2, 5, 7-25, 27-31 and 36-57, drawn to a methods comprising introducing into a plant cell a nucleic acid molecule of SEQ ID NO:5 encoding a cyclin-dependent kinase inhibitor (CKI) of SEQ ID NO:6, and to transgenic plants comprising said nucleotide sequence, classified in class 435, subclass 468, for example.

VII. Claims 32 and 52-54, drawn to a method of down regulating expression of CKI of SEQ ID NO:2 in a plant by cosuppression mediated by a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor of SEQ ID NO:1, classified in class 800, subclass 285, for example.

VIII. Claims 32 and 52-54, drawn to a method of down regulating expression of CKI of SEQ ID NO:4 in a plant by cosuppression mediated by a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor of SEQ ID NO:3, classified in class 800, subclass 285, for example.

IX. Claims 32 and 52-54, drawn to a method of down regulating expression of CKI of SEQ ID NO:6 in a plant by cosuppression mediated by a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor of SEQ ID NO:5, classified in class 800, subclass 285, for example.

X. Claims 33 and 52-54, drawn to a method of down regulating expression of CKI of SEQ ID NO:2 in a plant by antisense expression of a nucleic acid molecule of SEQ ID NO:1, classified in class 800, subclass 286, for example.

XI. Claims 33 and 52-54, drawn to a method of down regulating expression of CKI of SEQ ID NO:4 in a plant by antisense expression of a nucleic acid molecule of SEQ ID NO:3, classified in class 800, subclass 286, for example.

XII. Claims 33 and 52-54, drawn to a method of down regulating expression of CKI of SEQ ID NO:6 in a plant by antisense expression of a nucleic acid molecule of SEQ ID NO:5, classified in class 800, subclass 286, for example.

XIII. Claims 35 and 52 and 54, drawn to a method of modulating the level or activity of CKI of SEQ ID NO:2 in a plant by administering anti-CKI antibodies, classified in class 435, subclass 410, for example.

XIV. Claims 35 and 52 and 54, drawn to a method of modulating the level or activity of CKI of SEQ ID NO:4 in a plant by administering anti-CKI antibodies, classified in class 435, subclass 410, for example.

XV. Claims 35 and 52 and 54, drawn to a method of modulating the level or activity of CKI of SEQ ID NO:2 in a plant by administering anti-CKI antibodies, classified in class 435, subclass 410, for example.

XVI. Claims 35 and 52 and 54, drawn to a method of modulating the level or activity of CKI of SEQ ID NO:2 in a plant by expressing anti-CKI antibodies, classified in class 800, subclass 288, for example.

XVII. Claims 35 and 52 and 54, drawn to a method of modulating the level or activity of CKI of SEQ ID NO:4 in a plant by expressing anti-CKI antibodies, classified in class 800, subclass 288, for example.

XVIII. Claims 35 and 52 and 54, drawn to a method of modulating the level or activity of CKI of SEQ ID NO:2 in a plant by expressing anti-CKI antibodies, classified in class 800, subclass 288, for example.

XIX. Claim 58, drawn to an isolated nucleic acid sequence encoding the consensus sequence of SEQ ID NO:34, classified in class 536, subclass 24.3, for example.

XX. Claim 58, drawn to an isolated nucleic acid sequence encoding the consensus sequence of SEQ ID NO:35, classified in class 536, subclass 24.3, for example.

XXI. Claim 58, drawn to an isolated nucleic acid sequence encoding the consensus sequence of SEQ ID NO:36, classified in class 536, subclass 24.3, for example.

XXII. Claim 58, drawn to an isolated nucleic acid sequence encoding the consensus sequence of SEQ ID NO:37, classified in class 536, subclass 24.3, for example.

XXIII. Claim 58, drawn to an isolated nucleic acid sequence encoding the consensus sequence of SEQ ID NO:38, classified in class 526, subclass 24.3, for example.

XXIV. Claim 58, drawn to an isolated nucleic acid sequence encoding the consensus sequence of SEQ ID NO:39, classified in class 536, subclass 24.3, for example.

XXV. Claim 59, drawn to a peptide having the consensus sequence of SEQ ID NO:34, classified in class 530, subclass 300, for example.

XXVI. Claim 59, drawn to a peptide having the consensus sequence of SEQ ID NO:35, classified in class 530, subclass 300, for example.

XXVII. Claim 59, drawn to a peptide having the consensus sequence of SEQ ID NO:36, classified in class 530, subclass 300, for example.

XXVIII. Claim 59, drawn to a peptide having the consensus sequence of SEQ ID NO:37, classified in class 530, subclass 300, for example.

XXIX. Claim 59, drawn to a peptide having the consensus sequence of SEQ ID NO:38, classified in class 530, subclass 300, for example.

XXX. Claim 59, drawn to a peptide having the consensus sequence of SEQ ID NO:39, classified in class 530, subclass 300, for example.

4. The inventions are distinct, each from the other because of the following reasons:

5. The products of Groups IV-VI and XIX-XXX are distinct products. The transgenic plants of Groups IV-VI, isolated nucleic acids of Groups XIX-XXIV and peptides of Groups XXV-XXX are structurally and functionally distinct from one another, and can be used in different methods, such as methods of breeding for the transgenic plants, methods of PCR amplification for the isolated nucleic acids, and immunoassay methods for the peptides. The transgenic plants of Groups IV-VI are structurally and functionally distinct from one another because each comprises a different cyclin-dependent kinase inhibitor gene, and thus can be used in different methods. The isolated nucleic acids of Groups XIX-XXIV are structurally and functionally distinct from one another because each comprises a different nucleotide sequence encoding a different consensus sequence from a different region of a cyclin-dependent kinase inhibitor, and thus can be used in different methods.. The peptides of Groups XXV-XXX are structurally and functionally distinct from one another because each comprises a different amino acid consensus sequence from a different region of a cyclin-dependent kinase inhibitor, and thus can be used in different methods.

6. The inventions of Groups I-XVIII are also distinct methods. The methods of Groups I-III differ from the methods of the other Groups in that they require the introduction of a cyclin-dependent kinase inhibitor. The methods of Groups I-III differ from each other because each method requires the introduction of a different cyclin-dependent kinase inhibitor. The methods of Groups IV-VI differ from the methods of the other Groups in that they require only the introduction of a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor. The methods of Groups IV-VI differ from each other because each method requires the introduction of a different nucleic acid molecule encoding a different cyclin-dependent kinase inhibitor. The

method of Groups VII-IX differ from the methods of the other Groups in that they require cosuppression mediated by a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor. The methods of Groups VII-IX differ from each other because each method requires cosuppression mediated by a different nucleic acid molecule encoding a different cyclin-dependent kinase inhibitor. The method of Groups X-XII differ from the methods of the other Groups in that they require antisense expression of a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor. The methods of Groups X-XII differ from each other because each method requires antisense expression of a different nucleic acid molecule encoding a different cyclin-dependent kinase inhibitor. The method of Groups XIII-XV differ from the methods of the other Groups in that they require the administration of anti-cyclin-dependent kinase inhibitor antibodies. The methods of Groups XIII-XV differ from each other because each method requires the administration of a different anti-cyclin-dependent kinase inhibitor antibody. The method of Groups XVI-XVIII differ from the methods of the other Groups in that they require the expressing in the cells of a plant anti-cyclin-dependent kinase inhibitor antibodies. The methods of Groups XVI-XVIII differ from each other because each method requires the expression of a different anti-cyclin-dependent kinase inhibitor antibody.

7. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, their recognized divergent subject matter, and the requirement for different areas of search, restriction for examination purposes as indicated is proper.

8. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

9. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Remarks***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Collins whose telephone number is (703) 605-1210. The examiner can normally be reached on Monday-Friday 8:45 AM -5:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Hutzell can be reached on (703) 308-4310. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and 1 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

CC
November 7, 2001

ELIZABETH F. McELWAIN
PRIMARY EXAMINER
GROUP 1600